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CHARACTERISTICS OF HYBRID MICROWAVE SINTERING OF Zn-Al-Cu-Mg ALLOY

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Abstract: Hybrid microwave sintering is a promising method to enhance better properties of sintered metallic alloys. Mixtures of Zn-Al-Cu-Mg elements with 8 wt-%, 12 wt-%, and 27 wt-% fractions of Al were sintered by hybrid microwave method and compared with conventionally sintered products. Compositional, structural and thermo-mechanical characteristics of the sintered products were investigated. Analysis of the results confirmed the significant technical and economic advantages of hybrid microwave sintering to conventional sintering. The coefficient of thermal expansion (CTE) was reduced from 28.25 μm/m°C to 21.23 μm/m°C by increasing Al content from 8 wt-% to 27 wt-%.

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